

Extensible_Stylesheet_Language_Transformation_(XSLT)

XSLT [10] is an XML-based language used for the transformation of XML documents into other document formats for the following reasons:

- customer's application does not accept XML data at all;
- customer's application accepts XML data but conversion to a native application format will greatly facilitate data processing, e.g. applications like MS Office;
- data is required in a "human-readable" format, e.g. for presentation, applications like Web browser, etc.

The transformation from an XML source document to the output document in a different format requires an XSLT stylesheet, which contains the XSLT program text (or "source code" in other languages) and is itself an XML document. It describes a collection of instructions and other directives that guide the XSLT processor in the production of the output document.

IOOS DIF will develop XSLT stylesheets for the most common and popular data format, e.g. HTML and CSV. However, customers are encouraged to develop their own stylesheets, and share them with the community members.

A [sample XSLT stylesheet](#) converts data from a single station encoding using the IOOS DIF XML Schema to an HTML table for easier reading by humans.

NDBC developed a Web page which fetches the most recent ocean currents observation for a given station, and transforms the XML response to HTML for Web browser:

- [sample XSL transform for 46088 - Single Point](#)
- [sample XSL transform for 41012 - Vertical Profile](#)
- [sample XSL transform for 42361 - Longer Vertical Profile](#)

[The Metadata Transform Working Group](#) is a collaborative effort that was created to build transforms ([using XSLT 2.0](#)) for the transition of metadata between standards. Many organizations have joined to contribute to this effort including members of the FGDC Metadata Working Group, NOAA's NCDDC, NOS, NGDC, and NODC, the USGS, and various other organizations. The goal of this collaborative effort is to produce metadata transforms among standards, libraries which support various conversions and best practices for their applications.

To date the following transforms have been checked by the Metadata Transform Working Group and are considered "close to finalized." Revised versions will be posted [here](#) as they become available. As the development of these transforms and libraries for translation of content is a collaborative effort, any questions or comments can be sent to ncddcmetadata@noaa.gov to be passed along to the working group.

- [FGDC CSDGM to ISO Transforms](#) - This is an xslt file containing the FGDC CSDGM to ISO transform using the MI_Metadata root.
- [FGDC BIO to ISO Transforms](#) - This is an xslt file containing the FGDC Biological Profile to ISO transform using the MI_Metadata root.
- [FGDC RSE to ISO Transforms](#) - This is an xslt file containing the FGDC Remote Sensing Extensions to ISO transform using the MI_Metadata root.
- [FGDC E&A to Feature Catalogue](#) - This is an xslt file containing the FGDC Entity and Attribute Section to ISO Feature Catalogue (ISO 19110).

Numerous other transforms (including these in XPath 1.0), test cases, crosswalks, and schemas are available [here](#)

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NGDC XSLs

[All XSLTs hosted at NGDC](#)

URLs of Transformations to ISO

- [NCML to ISO 19115-2 \(XML\)](#)
- [FGDC to ISO 19115-2 \(XML\)](#)
- [FGDC Entity and Attributes to ISO Feature Catalog \(XML\)](#)

URLs of Transformations from ISO

- [ISO 19115-2 to Discovery FGDC \(XML\)](#)
- [ISO to Rubric \(HTML\)](#)
- [ISO to Simple Display \(HTML\)](#)
- [ISO Codelists to HTML](#)
- [ISO 19115-2 to FAQ \(HTML\)](#)
- [ISO 19115-2 to Indented Text \(HTML\)](#)
- [ISO 19115-2 to LE Source Object \(XML\)](#)

PacIOOS XSLs

[All XSLTs hosted at PacIOOS](#)

Example of metadata displays based on the XSLTs above

- [NOAA Coral Reef Watch Operational Twice-Weekly Near-Real-Time Global 50km Satellite Coral Bleaching Monitoring Products](#)

Simple web service that applies the various XSLTs to underlying metadata records in a web environment. [get_metadata.pl](#) provides both a parameter/value URL pattern as well as a RESTful resource oriented URL access pattern. For example http://oos.soest.hawaii.edu/cgi-bin/get_metadata.pl?id=NS01agg and <http://pacioos.org/metadata/NS01agg.html> both resolve to the same HTML representation of the underlying resource.